2003
PERFORMANCE ENGINEERED

CAD Now!

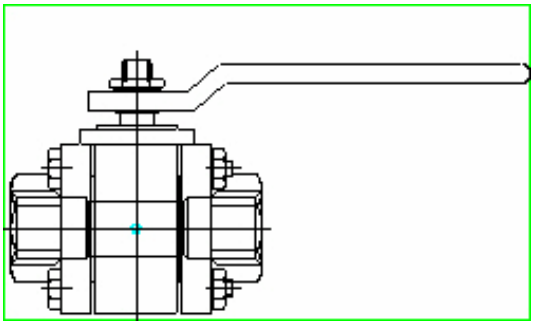
User Manual

CAD Now! is a powerful and configurable CAD drawing database with features that help engineers, purchasing agents and contractors produce and procure new piping design schemes. This booklet explains the detailed use of CAD Now! and provides complete instructions for installation and configuration.

Some powerful functions of CAD Now!

- Configure the exact valve, actuator or control accessory by inputing:
  - Valve Size
  - Materials of Construction
  - End connections
  - Flow Patterns etc.
- Insert the drawing directly into your CAD program. ***CAD Now!*** supports all major CAD program formats.
- Download Technical Brochures, Manuals, Wiring Diagrams etc. directly from the CAD Now! database.
- Save drawings to your hard drive to be opened by ***CAD Now!*** with one "Double Click"
- "Right Click" on any drawing (even after inserting or downloading) to view the exact part number, size and manufacturer of the part for easy ordering.
- All drawings include embedded dimensions.
- The fully functional ***CAD Now!*** is always available to you online at **www.SVF.net**
- All drawings are available in 2D or 3D formats. 3D drawing may be rotated for full viewing.

SVF Flow Controls is pleased to introduce our *CAD Now!* technology resource program.



CAD Now! is a powerful engineering tool that provides CAD drawings (2D and 3D) and engineering information in a convenient and easy to use format.

CAD Now! Technology

- Delivers both 2D and 3D drawings in native *Autodesk* formats and industry neutral formats.
- Engineers can specify custom products by using the parametric product configuration capabilities of *CAD Now!*.
- *CAD Now!* keeps pace with changing technology to insure the data is user friendly and current with new technologies including file formats, CAD systems and new software releases.
- *CAD Now!* is compatible in both 2D and 3D formats with all major CAD systems including:

SoidWorks	TurboCAD	Solid Edge
CADKEY	UNIGRAPHICS	IDEAS
Pro-Engineer	Microstation	IronCAD

through DXF, DWG, STEP and SAT file formats.

CAD Now! Configurator for SVF Products

The configurator in SVF-*CAD Now!* extracts product information and delivers CAD drawings through our familiar part numbering system.

R8*	66	66	T	T	SE
Valve Series	Body & Ends	Ball & Stem	Seat	Body Seal	End Connection
R8=Regular ported 3-piece	4-Carbon Steel 6-Stainless Steel 9-Hastelloy C	6-Stainless Steel 3-Monel 8-Alloy 20 9-Hastelloy C	T-Teflon R-Reinforced TFE N-NRG D-Delrin V-VX1 U-UHMWPE K-Tempre K	T-Teflon B-Buna N-Neoprene E-EPDM V-Viton U-UHMWPE G-Graphoil	SE-Screwed End SW-Socket Weld BW-Butt Weld 150-Flanged 150

*SVF offers the following series of ball valves with a wide selection of materials and end connections. Some selections will alter the series nomenclature. For instance an R8 series valve with NRG seat and Graphoil body seal is identical to our N8 (steam and thermal fluids valve).

How to Use *CAD Now!*

In the SVF *CAD Now!* main page you will find the following folders and their contents:

Folder	Contents
Standard Ball Valves	R6/R7/R8 Three Piece B6/B7/B8 Three Piece Full Port 41/B41/B42 Flanged Fire Safe
Special Service Ball Valve	N6/N7/N8 Three Piece Steam L6/L7/L8 Three Piece Compression P3 Three Piece High Pressure D6/D7/T6/T7 Diverter Valves 31/32 Flanged RJ6/RJ31 Steam Jacketed K7 Cryogenic C6/C7/C32 Chlorine Valves
Economy Ball Valves	BWEV4/6 Railroad Tank Car Valves REV Regular Port BEV-SS Two Piece Full Port SS BEV-BRASS Two Piece Full Port Brass
Quarter-Turn Actuators	Aero Rack & Pinion Pneumatic Compact4 Quad Piston Pneumatic “E” Series Electric Actuators
Accessories	Limit Switches N4 & N7 Positioners P & E-P
High Purity Ball Valves	SB7 Two WayTSB7 Three Way

Three Piece Valves		
Series	Description	Key Defining Components
B8	Full Port 3-Piece	Full Selection of Materials
N8	Steam/Thermal Fluids	NRG Seat/Grafoil Body Seal
L8	Instrumentation Valve	Compression Ends (Tubing)
K7	Cryogenic	Low Temp Seats/Stem Extension
D6/D7	Diverter Valves	Full Selection of Materials
T6/T7	Multi Port	Full Selection of Materials
RJ	Steam Jacketed	Full Selection of Materials
P3	5,000# valve	Delrin Seats/Forged body
C6/C7/C32	Chlorine Valve	Ball/Stem Selection for Service

Economy Ball Valves	
Series	Description
BEV-SS	Full Port 2-piece SS Valve
BEV-Brass	Full Port 2-piece Brass Valve
REV	Reduced Port 2-piece SS
BWEV	Seal Welded Railroad Valve

Flanged Valves	
Series	Description
41	150# Regular Port Fire Safe Flanged
B41	150# Full Port Fire Safe Flanged
B42	300# Full Port Fire Safe Flanged
C32	Chlorine Valve
RJ	Steam Jacketed

Quarter-Turn Actuators	
Series	Description
Aero	Double Rack&Pinion Pneumatic Actuator
“E” Series	Heavy Duty Electric Rotary Actuators
Compact4	Quad-Piston Actuators

High Purity Ball Valves	
Series	Description
SB7	High Purity 2-Way
TSB7	High Purity Diverter

CAD Now! Configurator

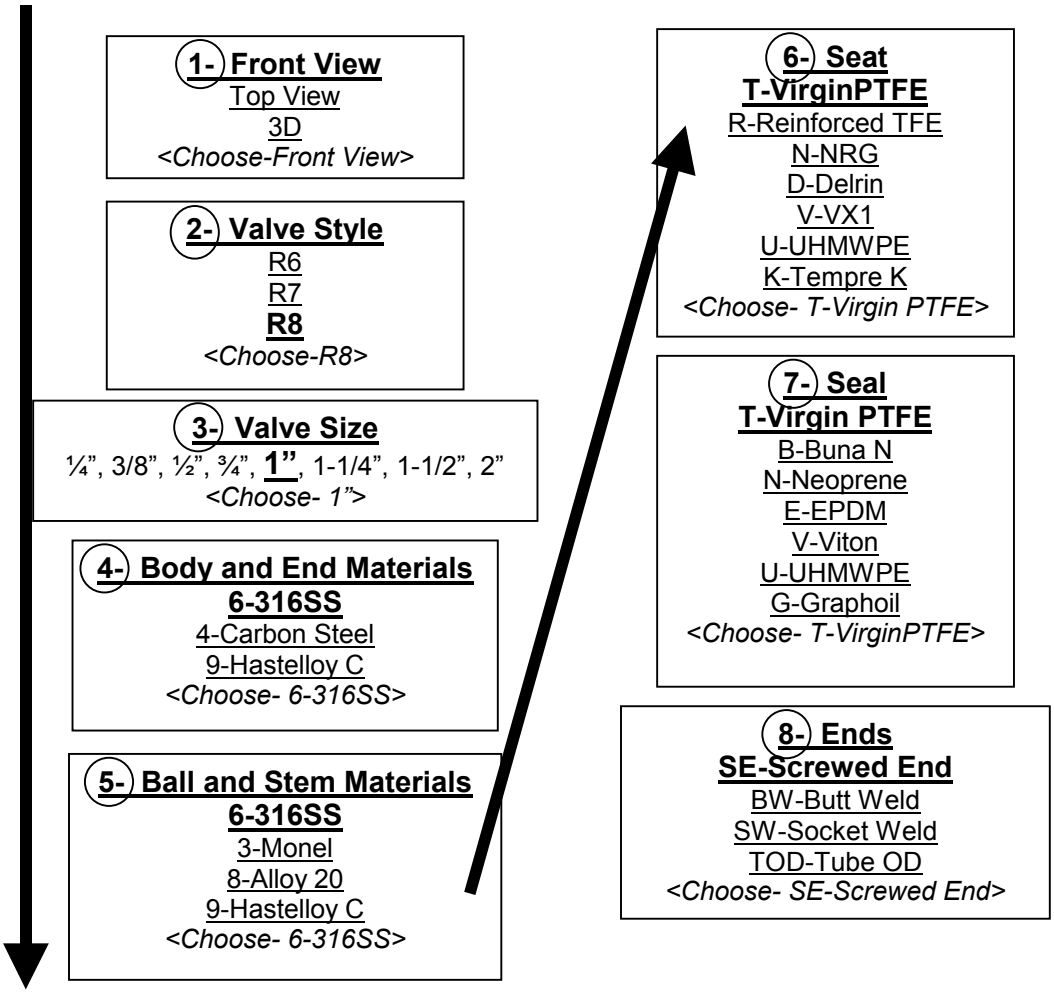
The *CAD Now!* Configurator guides you through the selection of the exact SVF ball valve for your needs and then generates a downloadable CAD drawing. Follow the example below.

Example:

Here is the procedure for selecting an R8 three-piece ball valve and CAD drawing found in the "Standard Ball Valves" folder.

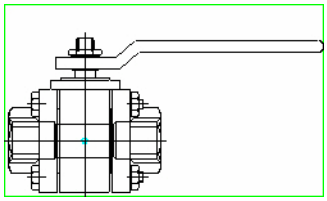
Folder	Contents
Standard Ball Valves	R6/R7/R8 <Choose This> B6/B7/B8 41/B41/B42

To begin, select R6/R7/R8 from the "Standard Ball Valves" folder. This will generate the following selection tables in eight specific steps:



C A D D r a w I n g

Once you have completed the configuration steps, *CAD Now!* will generate a page similar to the following:



DOWNLOAD DRAWING **INSERT INTO AUTOCAD**

Bill of Materials			
Description	Model Number	Selection	Supplier
R6/R7/R8 Series Ball Valve	1”R8 6 6 6 6 T T S E	Valve Size 1”	SVF Flow Controls, Inc.

This example generated a CAD drawing for the following valve description:

Model	1” R8666TTSE
Size	1”
Series	R8 Reduced Port Ball Valve
Body	316 SS
Ends	316SS
Ball	316 SS
Stem	316 SS
Seat	Virgin PTFE
Body Seal	VirginPTFE
End Connections	SE=Screwed End (NPT)
Manufacturer	SVF Flow Controls, Inc.

CAD Now! may be accessed through the *SVF* website (**www.SVF.net**) or you may order your free copy of the CD version by contacting SVF, your local distributor or by e-mailing us at

Service@ SVF.net.

SVF is dedicated to providing information to the marketplace. While visitng our website be sure to visit our “Document Library” and register to receive our E-Newsletter.

In addition to our focus on delivering market knowledge, *SVF* also makes access to our products easy. To learn more about our unprecedented shipping record ask for our document on ***ReFLEX***.

CAD NOW! Instructional Guide

The following steps serve as a basic guide to the installation of the ***CAD NOW!**** software as well as running the software in order to view and import the desired part into a CAD drawing.

CAD NOW! is a powerful software tool that allows the user to select various CAD drawings of valves, actuators, and accessories that SVF offers. Once a part has been created by selecting from the various options given in the "configurator", a drawing of the selected part will appear and the part can be viewed and inspected. Furthermore, a selected part can then be imported into a CAD program and edited, or it can be used to create assemblies with other accessories. The biggest advantage of using the CAD NOW! software is its capability to allow you to import a desired CAD drawing into a CAD program when developing a piping scheme. Instructions on importing drawings into CAD programs will be discussed later.

INSTALLATION

To install the ***CAD NOW!*** software, make sure that the ***CAD NOW!*** CD is inserted in to the designated CD Drive. The software should enter the set-up prompt automatically. If not, then choose Run from the Start Menu.

CAD NOW! is the SVF trade name for the PlantSpec CAD database/configurator produced exclusively for SVF by Thomas Register (online at CADRegister) ***CAD NOW!*** is also accessible at **www.SVF.net**

The following shows a list of System Requirements necessary to install ***CAD NOW!***

-Windows® 95, Windows® 98, Windows® 2000 or Windows NT® 4.0 or higher
-Processor Requirements 486DX or greater
-64 MB RAM minimum recommended
-100MB free hard disk space
-Dual-speed CD-ROM drive minimum
-Mouse
-AutoCAD or other CAD software required for .DWG insertion

Follow the designated onscreen instruction prompts to install the software into the hard drive i.e., the user agreement, choose standard setup, select Local CD Rom drive, and select the destination folder for the software. During the installation process, you will be informed that you need Acrobat Reader if you do not already have a PDF reader installed on your PC. If you do not already have it then the installation manager will prompt you to install Acrobat Reader 4.0.

INSTALLATION (continued)

Once the setup is complete, click on launch to run ***CAD NOW!*** immediately, or to start ***CAD NOW!*** choose:

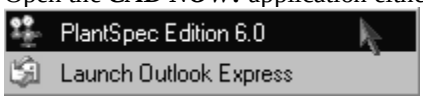
Programs>Thomas Register's PlantSpec>PlantSpec Edition 6.5

from the start menu

(***CAD NOW!*** data can be stored locally on a workstation or network drive, or kept on the CD. When using data from the CD, make sure that the CD is inserted in the CD-ROM drive when running this application).

USING *CAD NOW!*

Open the ***CAD NOW!*** application either by clicking the PlantSpec icon, shown here,



, or by launching it from its downloaded directory, explained previously**.** Double Click in the *SVF Flow Controls, Inc.* option.

The ***CAD NOW!*** interface is similar to the Microsoft® Windows Explorer tree structure. Parts can be quickly located by expanding and collapsing branches to narrow a search.

Double-click on the *SVF Flow Controls* folder and narrow down the desired part by selecting from the different types of valves, actuators, and various accessories, found in the subfolders.

Once you have selected a basic part, you will be prompted by various menus to select different characteristics of your desired part, such as size, seat and seal materials, etc.

The final selection will be shown in the graphics window, details of the part (shown in Frame E in Figure 1) along with the part number (Listed in the top frame of the Window).

The part is a 2D Front View of a model R86666TTSE

- ¼" R8 Valve
- Stainless Steel body and ends
- Stainless Steel ball and stem
- TFE Seats and Seals
- NPT ends

NOTE: Once a drawing of a part has been generated, the ordering information about that part can be accessed at any time by "right-clicking" on that part.

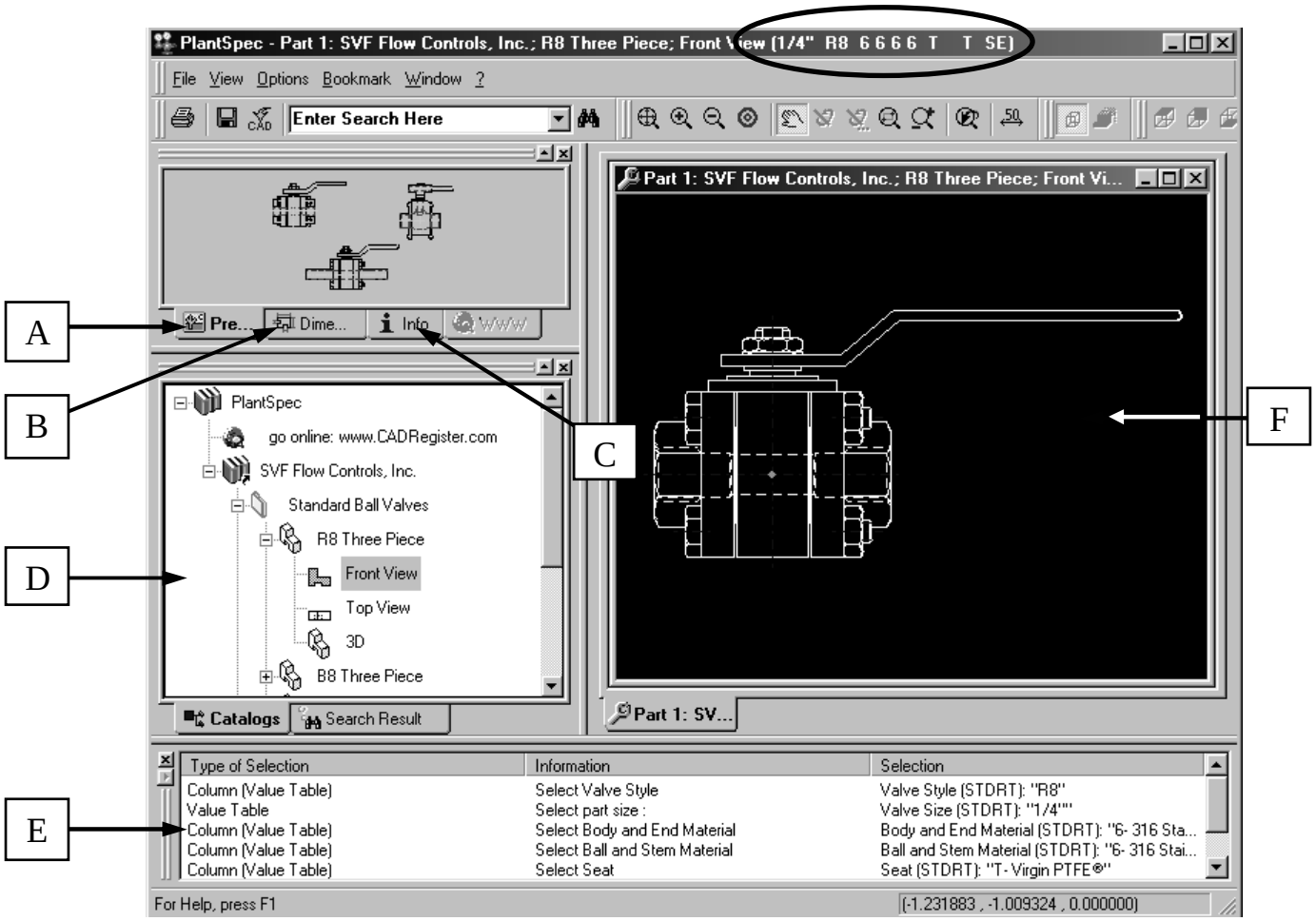


Figure 1. The main PlantSpec/***CAD Now!*** window

Listed below are the different Tabs and tools:

A: The Preview Tab, when selected, generates a general drawing or photograph of the desired CAD drawing, selected from the subfolders in "D".

B: The Dimension tab when selected provides the dimensional scheme for the desired CAD drawing.

C: The info tab provides any data sheets and other supplemental information and documentation about the product being "configured". This information is in PDF format.

D: This is the *Catalog* window that provides the folders and subfolders from which the desired CAD drawing is selected.

E: This is the *Value* table, showing the characteristics of the active CAD drawing. You can change materials and ends simply by double-clicking on the corresponding characteristic in the Selection column.

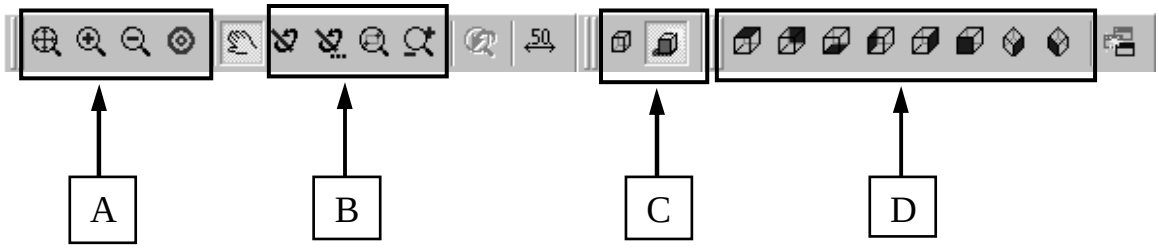
F: This is the viewport, which shows the most recently selected CAD drawing. It is possible to have several drawings generated. However, only one CAD drawing may be active at a time.

After the desired part has been selected and a drawing has been generated, there are several options.

The main PlantSpec/*CAD Now!* window provides a variety of actions available to the user.

If the drawing is a 3D drawing, use the various tools in the viewing tool bar (shown below) to rotate and change views for the part.

If the desired drawing is a 2D drawing, only a few of the tools are available, such as zooming in and out.



Shown here is a brief explanation of the viewing toolbar.

A: Allows you to view the desired object with its maximum extents in the viewport, zoom in, zoom out, and select a center for the drawing.

B: For 3D drawings the rotate and automatic rotate buttons allow you to either manually rotate the object or to view it while it continuously rotates. The zoom window allows you to select a zoom area by creating a box around the desired zoom section. The Dynamic zoom button allows you to zoom in and out using the mouse.

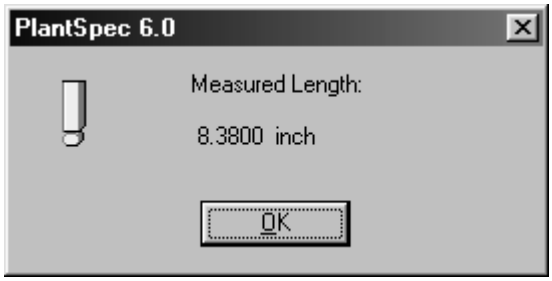
C: For 3D drawings only. Allows a drawing to be viewed in either wireframe or rendered solid formats.

D: For 3D drawings only. Each button in this section of the toolbar provides a different view for a desired drawing. These drawings are: top, back, bottom, left, right, front, and isometric views.

Extracting Dimensions

Another useful tool in the ***CAD NOW!*** software is the capability to extract dimensions from a drawing without having to import the part into CAD. The *Dimension Tool*, , allows you to measure various dimensions of the part. However, this tool is limited to 2D drawings as the snap feature does not operate on the 3D generated drawing (Dimensions from drawings can be extracted once the drawing has been imported into a CAD program). Simply select the dimension tool icon, shown earlier and choose two desired points by dragging the mouse to the corresponding locations.

A measured length form will appear, for example:

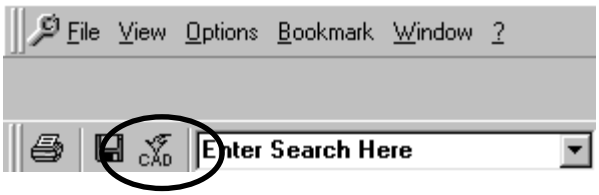


Printing a drawing

CAD NOW! offers the option of printing a drawing directly from the **PlantSpec/*CAD Now!*** main form. Use the print icon or use the File/Print menu found on the top left hand section of the frame. The part is automatically centered and printed exactly as it appears in the viewport. Printing through this medium is limited and used primarily to get a generic drawing of a desired part because there are no dimensions included on the printout. It is much more useful to import the desired part into a CAD program, such as AutoCAD, and manipulate the drawing, extract the desired dimensions, and then print out the part accordingly.

Importing into CAD

Once the part has been selected, it can be imported into any of the compatible CAD programs (see "Compatible Programs" table). Here, we will use AutoCAD 2000 2D as an example. The desired part has been obtained by selecting the various characteristics of the valve, shown earlier. The part is now ready to be imported into AutoCAD. In order to import the part into AutoCAD, a new AutoCAD file must currently be open. Open a new file in AutoCAD, then go back to the ***CAD Now!*** page. Then click on the insert into CAD icon, (circled below).



After clicking on the icon, the part will automatically be inserted into the new AutoCAD file. Now you can select the specific location and rotation of the part. After inserting the part, you can use AutoCAD to edit and extract dimensions. It is a good idea to check the dimensions of the drawing in order to make sure that it is the desired part. However, when using AutoCAD, before being able to edit the drawing and extracting dimensions, you may need to explode the object a few times, since the object is inserted into CAD as a single block.

COMPATIBLE PROGRAMS

The following is a list of 2D CAD programs that CAD Now! is compatible with:

AutoCAD 13 2D
AutoCAD 14(>= 14.01) 2D
AutoCAD 2000 2D, 2002 2D
AutoCAD LT2000, LT2002
AutoCAD LT 95, LT 97, LT98
HiCAD
TurboCAD V4/V5
Solid Edge V7 2D, V8 2D, V9 2D, V10 2D, V11 2D
Mechanical Desktop 2.x/3.x 2D
Mechanical Desktop 4 2D, 5 2D, 6 2D
MegaCAD 2D >= 4.8/14.8
MegaCAD Makro 4.8/50 2D
Smart Sketch
TurboCAD V6

The list of 3D CAD programs CAD Now! is compatible with are as follows:

AutoCAD 13 3D
AutoCAD 14(>= 14.01) 3D
AutoCAD 2000 3D, 2002 3D
Caddy ++ 3D
CATIA 5 R6
HICAD
Top Solid 64
Solid Edge V7 3D, V8 3D, V9 3D, V10 3D, V11 3D
Inventor 5 3D
Mechanical Desktop 2.x/3.x 3D
Mechanical Desktop 4 3D, 5 3D, 6 3D
MegaCAD 3D >= 15.0
ProE 2000 i^2 3D
Solidworks 99 3D, 2000 3D, 2001 3D
Solidworks 2001 Plus 3D